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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/881,734	06/18/2001	A. Scott Hollums	1875.0700002	8770

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EXAMINER	
PHAN, MAN U	

ART UNIT	PAPER NUMBER
2665	

DATE MAILED: 04/26/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	09/881,734	HOLLUMS ET AL.	
	Examiner	Art Unit	
	Man Phan	2665	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE ____ MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☐ Responsive to communication(s) filed on _____.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☐ Claim(s) _____ is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☐ Claim(s) _____ is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

1. The application of Hollums et al. for a "System, method and computer program product for scheduling burst profile changes based on minislot count" filed 06/18/2001 has been examined. This application claims Priority from Provisional Application 60261273 filed 01/12/2001. Claims 1-15 are pending in the application.

Claim Rejections - 35 USC ' 103

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

3. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later

invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

4. Claims 1-15 are rejected under 35 U.S.C. 103(a) as being unpatentable over Yen et al. (US#2002/0064155) in view of Cole (US#6,714,589).

With respect to claims 1-4, Yen et al. (US#2002/0064155) and Cole (US#6,714,589) disclose a novel system and method for changing upstream physical layer parameters in a head-end physical layer device of a communication system, according to the essential features of the claims. Yen et al. discloses in Fig. 2 a block diagram illustrated a PHY signal control device 20, which detects changes of the external transmission, updates itself and, meanwhile, notifies the MAC device to update the transmission configuration. When MAC device receives the specific warning data, it checks the current transmission configuration of the PHY apparatus and updates its configuration accordingly. Thus the PHY apparatus and the MAC device operates under the same transmission configuration without transmission error. Furthermore, the PHY apparatus alerts the MAC device only if the external transmission configuration has changed. In this way, the performance downgrade issue of the conventional technique will be solved. In the Yen's system, the PHY apparatus mainly includes a first device and a second device. The first device is used to connect the PHY apparatus and the MAC device, and to enable data transmission between the PHY apparatus and the MAC device. The second device is used to control the first device to selectively transfer the general data from LAN or the warning data generated by the PHY apparatus to the MAC device. Thus, when the external transmission configuration switches, the PHY apparatus soon

becomes alert and adjusts to the current transmission configuration. Afterwards, it sends a specific warning data to the MAC device by means of the second device. In response, the MAC device changes its transmission configuration. So the PHY apparatus and the MAC device work with each other under the same transmission configuration as the external device. Consequently, the MAC device doesn't have to monitor the PHY apparatus all the time, and a performance downgrade is avoided. The PHY apparatus further includes a third device, a fourth device and a fifth device. The third device is used to store the specific warning data, the fourth device records the current transmission configuration over the LAN, and the fifth device handles general data from LAN and relays the data to the MAC device through the first device and the second device (Fig. 3; [0009], [0018]).

However, Yen et al. does not disclose expressly the step of sending the parameters to the physical layer device at a predetermined time. In the same field of endeavor, Cole discloses a communication device that employs a synchronous primitive signal for coordinating synchronous events, in which a synchronization unit adapted to receive a primitive synchronization signal and change at least one of the physical layer operating parameters at a first time instant determined based on receipt of the primitive synchronization signal. Cole's communication system includes a first modem and a second modem. The first modem is adapted to modulate and demodulate data in accordance with a set of operating parameters and transmit a request to change one of the operating parameters. The second modem is coupled to the first modem and adapted to modulate and demodulate data in accordance with the set of operating parameters, receive the request to change one of the operating parameters, and send a primitive synchronization signal to the first modem. The

first modem is adapted to implement the change in response to receiving the primitive synchronization signal. A method for communicating messages requiring synchronization includes receiving symbols in a modem; analyzing the symbols to identify a primitive synchronization signal; and modifying a physical layer operating parameter of the modem in response to identifying the primitive synchronization signal (See Fig. 3; Col. 3, lines 36 plus).

With respect to claim 5, Yen et al. further teach in Fig. 5 a schematic diagram illustrated how PHY apparatus is connected to the driver in the MAC device, in which the register set 24 records the current transmission configuration of the PHY device 20, and the current transmission configuration can be read by the driver 51 connected to the MAC device 30 ([0022]-[0023]).

Regarding claims 8, 10, 12, 13, they are method claims corresponding to the system claims 1-5 above. Therefore, claims 8, 10, 12, 13 are analyzed and rejected as previously discussed with respect to claims 1-5.

One skilled in the art would have recognized the need for effectively and efficiently changing one or more PHY parameters as configured in a PHY device, and would have applied Cole's teaching of a synchronization unit adapted to receive a primitive synchronization signal and change at least one of the physical layer operating parameters at a first time instant determined based on receipt of the primitive synchronization signal into Yen's novel use of a PHY signal control device. Therefore, It would have been obvious to a person of ordinary skill in the art at the time of the invention was made to apply Cole's communication device with primitive synchronization signal into Yen's PHY signal control device and method for selectively generating a specific warning data with the motivation

being to provide a method and system for changing PHY parameters in a PHY device of a communication system.

5. Claims 6-7 are rejected under 35 U.S.C. 103(a) as being unpatentable over Yen et al. (US#2002/0064155) in view of Cole (US#6,714,589) as applied to the claims above, and further in view of Denney et al. (US#2002/0093935).

With respect to claims 6-7, Yen et al. (US#2002/0064155) and Cole (US#6,714,589) disclose the claimed limitations discussed in paragraph 4 above. However, these claims differ from the claims above in that the claims require the feature of a channel identifier, which corresponds to a communications channel to which the parameters pertain; and the PHY parameters correspond to a burst profile. In the same field of endeavor, Denney et al. (US#2002/0093935) discloses in Figs. 3A&B the flow charts illustrated the synchronization process between a head end and a set of remote devices, according to DOCSIS, in which at the step 335, the headend sends a MAP message to all associated remotes, identifying the starting point, in the upstream, of an IMR. The starting point can be identified in terms of a specific minislot. In step 340, each remote receives the MAP message. In step 345, when a remote's minislot count matches the minislot identified in the MAP message, the remote sends a burst transmission to the headend in response. A burst used in this context, for establishing synchronization, is known as a ranging burst. In step 350, a burst demodulator in the headend compares the arrival time of the ranging burst with the expected arrival time of the burst. In step 355, the headend instructs the remote to adjust its (the remote's) local clock by the time

difference. Once the remote does so, the synchronization process concludes at step 360 (See also Figs. 6A&B, [0040]-[0051]).

Regarding claims 9, 11, 14, 15, they are method claims corresponding to the system claims 6, 7 above. Therefore, claims 9, 11, 14, 15 are analyzed and rejected as previously discussed with respect to claims 6, 7.

One skilled in the art would have recognized the need for effectively and efficiently changing one or more PHY parameters as configured in a PHY device, and would have applied Denney's teaching of the synchronization between a head end and remote devices using time offset to minislot clock and count in headend devices, and Cole's teaching of a synchronization unit adapted to receive a primitive synchronization signal and change at least one of the physical layer operating parameters at a first time instant determined based on receipt of the primitive synchronization signal into Yen's novel use of a PHY signal control device. Therefore, It would have been obvious to a person of ordinary skill in the art at the time of the invention was made to apply Denney's method and system for providing time offset to minislot clock and count in headend devices, and Cole's communication device with primitive synchronization signal into Yen's PHY signal control device and method for selectively generating a specific warning data with the motivation being to provide a method and system for changing PHY parameters in a PHY device of a communication system.

Conclusion

6. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

The Vogel et al. (US#6,751,230) is cited to show the upstream channel multicast media access control (MAC) address method for data over cable systems.

The Abi-Nassif (US#6,215,792) is cited to show the system, device, and method for initial ranging in a communication network.

The Quigley et al. (US#6,650,624) is cited to show the cable modem apparatus and method.

The Quigley et al. (US#2001/0055319) is cited to show robust techniques for optimal upstream communication between cable modem subscribers and a headend.

The Thi et al. (US#2002/0061012) is cited to show the cable modem with voice processing capability.

7. Any inquiry concerning this communication or earlier communications from the examiner should be directed to M. Phan whose telephone number is (571) 272-3149. The examiner can normally be reached on Mon - Fri from 6:00 to 3:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Huy Vu, can be reached on (571) 272-3155. The fax phone number for the organization where this application or proceeding is assigned is (703) 305-3988.
Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (571) 272-2600.

8. Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published

applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have any questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at toll free 1-866-217-9197.

Mphan

04/21/2005.

MAN U. PHAN
PRIMARY EXAMINER